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U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

P22010

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

10/069126

INTERNATIONAL APPLICATION NO.

PCT/FR00/02424

INTERNATIONAL FILING DATE

01 September 2000

PRIORITY DATE CLAIMED

02 September 1999

TITLE OF INVENTION

TEARAWAY ADHESIVE TAPE ON NONWOVEN SUPPORT

APPLICANT(S) FOR DO/EO/US

Alain GOUX, and R  mi BARNET

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.

1. ☒ This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to promptly begin national examination procedures (35 U.S.C. 371(f)).
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)).
"WITH EXECUTED DECLARATION"
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3))
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
"UNEXECUTED"
10. ☒ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (U.S.C. 371(c)(5)).

Items 11 to 16 below concern other document(s) or information included:

11. Assignee: SCAPA TAPES FRANCE S.A., Bellegarde sur Valserine, FRANCE
12. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
13. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
14. ☒ A FIRST preliminary amendment.
☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ Figure of Drawing to be published
18. ☒ Other items or information:

International Application as published (in French).
PCT/ISA/210 (in French and English).
PCT/RO/101 PCT Request (in French).
PCT/IPEA/416 (in French).
PCT/IPEA/409 International Preliminary Amendment (in French).
PCT/IB/304 (in French).
PCT/IB/308 (in French).
Cover Letter under 35 U.S.C. 371 and 37 C.F.R. 1.495.
English Language translation of PCT/IPEA/409 with Executed Declaration.
Claim of Priority.

U.S. APPLICATION NO. (If known, see 37 CFR 1.5) - 10,067,126		INTERNATIONAL APPLICATION NO. PCT/FR00/02424		ATTORNEY'S DOCKET NUMBER P22010					
19. <input checked="" type="checkbox"/> The following fees are submitted: Basic National Fee (37 CFR 1.492(a)(1)-(5)): Search report has been prepared by the EPO or JPO. \$ 890.00 International preliminary examination fee paid to USPTO (37 CFR 1.482). \$ 710.00 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO(37 CFR 1.445(a)(2)). \$ 740.00 Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2) paid to USPTO. \$1,040.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4). \$ 100.00 ENTER APPROPRIATE BASIC FEE AMOUNT =				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%;">CALCULATIONS</th> <th style="width:50%;">PTO USE ONLY</th> </tr> <tr> <td colspan="2" style="height: 100px;"></td> </tr> </table>		CALCULATIONS	PTO USE ONLY		
CALCULATIONS	PTO USE ONLY								
Surcharge of \$130.00 for furnishing the oath or declaration later than ___ 20 ___ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$ 0.00					
Claims	Number Filed	Number Extra	RATE	\$ 0.00					
Total Claims	- 20 =		X \$18.00	\$ 0.00					
Independent Claims	- 3 =		X \$84.00	\$ 0.00					
Multiple dependent claim(s) (if applicable)			+ \$280.00	\$ 0.00					
TOTAL OF ABOVE CALCULATIONS =				\$890.00					
___ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$ 0.00					
SUBTOTAL =				890.00					
Processing fee of \$130.00 for furnishing the English translation later than ___ 20 ___ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				0.00					
Extension of Time fee in the amount of \$				0.00					
TOTAL NATIONAL FEE =				890.00					
Fee for recording the enclosed assignment (37 CFR 1.21(h). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				0.00					
TOTAL FEES ENCLOSED =				890.00					
				Amount to be refunded					
				Charged					

a. ☒ A check in the amount of \$ 890.00 to cover the above fees is enclosed.

b. ___ Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to
 Deposit Account No. 19-0089.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and
 granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO CUSTOMER NO. 7055
 AT THE PRESENT ADDRESS OF:

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SIGNATURE

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 NAME

28,394 Reg No 31,096
 REGISTRATION NUMBER

10069126 072402
REC'D PCT/PTO 24 JUL 2002 #6
10/069126

P22010.A03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : A. GOUX et al. Group Art Unit: Unknown
Serial No : 10/069,126
(National Stage of PCT/FR00/02424) Examiner: Unknown
I.A. Filed : September 1, 2000)
For : TEAR-Off ADHESIVE TAPE ON NONWOVEN SUPPORT

SUPPLEMENTAL PRELIMINARY AMENDMENT

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Prior to calculation of the filing fees and the examination of the above-identified patent application on the merits, the Examiner is respectfully requested to amend the claims as follows:

IN THE CLAIMS

Please cancel claims 1-14 without prejudice or disclaimer.

Add new claims 15-38 as follows:

- - - 15. An adhesive tape comprising:

a non-woven fibrous support comprising felt and/or needlebonded fabric;

the support having a thickness 0.3 to 1 mm and a surface mass of fibers of 70 to 120 g/m²;

a layer of adhesive covering one face of the support;

the fibers being immersed 10 μm to 0.5 mm in the adhesive; and

the tape being rolled up with direct contact between the adhesive and the support.

16. The tape of claim 15, wherein the thickness of the support is 0.4 to 0.7 mm.

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17. The tape of claim 15, wherein the surface mass of fibers of the support is between 80 and 110 g/m².

18. The tape of claim 15, comprising a transverse tearing effort of less than 15 N according to the AFERA 4007 method.

19. The tape of claim 15, wherein the support has a tear resistance by traction of greater than 1.5 daN/cm, a modulus at 20% elongation of more than 0.5 N/cm, and an elongation break of 50 % to 100%.

20. The tape of claim 15, wherein the fibers comprise polyester and/or viscose.

21. The tape of claim 15, wherein the fibers comprise viscose and polyester in a mass ratio of 20:80 to 50:50.

22. The tape of claim 15, wherein the fibers comprise viscose and polyester in a mass ratio of 40:60 to 50:50.

23. The tape of claim 15, wherein the fibers comprise up to 20% by mass of fibers which are more easily melted than polyester and/or viscose fibers and which are capable of interlinking by thermal treatment to strengthen the cohesion of the support.

24. The tape of claim 23, wherein the fibers comprise 5% to 15% by mass of the more easily melted fibers.

25. The tape of claim 23, wherein the more easily melted fibers comprise vinyl fibers and/or copolyester fibers.

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26. The tape of claim 15, wherein the adhesive is sensitive to pressure.
27. The tape of claim 15, wherein the face of the support opposite to the adhesive is calendered.
28. The tape of claim 15, wherein the face of the support opposite to the adhesive is covered with an anti-adhesive varnish.
29. The tape of claim 15, wherein the adhesive has a viscosity of 30,000 to 150,000 cP.
30. The tape of claim 15, comprising an unrolling effort of not more than 3.5 N/cm.
31. The tape of claim 15, further comprising a polyethylene and/or polyester based powder applied to the adhesive face of the support.
32. The tape of claim 31, wherein the powder is applied in an amount of 10 to 70 g/m².
33. The tape of claim 15, wherein the fibers comprise 50% polyester fibers, 45% viscose fibers, and 5% copolyester fibers having a melting point of less than 170 °C, and a surface mass of 90 to 102 g/m²; and comprising 20 to 40 g/m² of polyethylene powder on the adhesive face of the support.
34. A method of forming an adhesive tape according to claim 15, comprising applying the adhesive as a liquid to the support and then solidifying the adhesive.
35. The method of claim 34, wherein the solidifying comprises at least one of refrigeration, drying, or irradiation.

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36. The method of claim 34, wherein a powder and/or varnish is applied to the adhesive side of the support.

37. A method of using the tape of claim 15 comprising taping up bundles of cables.


38. The method of claim 37, comprising taping up bundles of cables in a motor vehicle.

REMARKS

By the above amendment, claims 1-14 and claims 15-38 have been added. Applicants note that this Amendment to the claims is not intended to narrow the scope of the claims, and no estoppel should be attached thereto. Accordingly, this Amendment should not be considered a decision to narrow the claims nor as surrendering equivalents of the territory between the claims prior to the present Amendment and the amended claims.

If there should be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
Alan GOUX, et al.


Neil F. Greenblum
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July 11, 2002
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P22010.A01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Alain GOUX et al.
Serial No : Not Yet Assigned (National Stage of PCT/FR00/02424)
Filed : Concurrently Herewith (International Filing Date September 1, 2000)
For : TEAR-Off ADHESIVE TAPE ON NONWOVEN SUPPORT

PRELIMINARY AMENDMENT

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Prior to calculation of the filing fees and the examination of the above-identified patent application on the merits, the Examiner is respectfully requested to amend the claims as follows:

IN THE CLAIMS

Please amend claims 3-5, 7, 9-12 and 14, as follows (a marked-up copy of the amendment is provided in the attached Appendix):

3. (Amended) Adhesive tape according to claim 1, wherein the surface mass of fibres of the support is between 80 and 110 g/m².

4. (Amended) Adhesive tape according to claim 1, having a transverse tearing effort of less than 15 N according to the AFERA 4007 method.

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5. (Amended) Adhesive tape according to claim 1, wherein the fibres of the support are formed at least substantially of polyester and/or viscose fibers.

7. (Amended) Adhesive tape according to claim 1, wherein the support contains a proportion of at most equal to 20% by mass of fibres which are more easily melted than polyester and/or viscose fibres and which are capable of interlinking by thermal treatment in order to strengthen the cohesion of the support.

9. (Amended) Adhesive tape according to claim 1, wherein the adhesive is sensitive to pressure.

10. (Amended) Adhesive tape according to claim 1, wherein the face of the support opposite to the adhesive is calendered.

11. (Amended) Adhesive tape according to claim 1, wherein the face of the support opposite to the adhesive is covered with an anti-adhesive varnish.

12. (Amended) Method of forming an adhesive tape according to claim 1, wherein the adhesive is applied to the support in the liquid state and is then brought to the solid state by suitable treatment, e.g., by refrigerating, drying or irradiation.

14. (Amended) Use of adhesive tape according to claim 1 for taping up bundles of cables, in particular in car manufacture.


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REMARKS

By the above amendment, claims 3-5, 7, 9-12 and 14, been amended to delete multiple dependency.

If there should be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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P22010.A01

APPENDIX **MARKED-UP COPY OF CLAIM AMENDMENTS**

3. (Amended) Adhesive tape according to [one of the preceding claims] claim 1, wherein the surface mass of fibres of the support is between 80 and 110 g/m².

4. (Amended) Adhesive tape according to [one of the preceding claims] claim 1, having a transverse tearing effort of less than 15 N according to the AFERA 4007 method.

5. (Amended) Adhesive tape according to [one of the preceding claims] claim 1, wherein the fibres of the support are formed at least substantially of polyester and/or viscose fibers.

7. (Amended) Adhesive tape according to [either of claims 5 or 6] claim 1, wherein the support contains a proportion of at most equal to 20% by mass of fibres which are more easily melted than polyester and/or viscose fibres and which are capable of interlinking by thermal treatment in order to strengthen the cohesion of the support.

9. (Amended) Adhesive tape according to [one of the preceding claims] claim 1, wherein the adhesive is sensitive to pressure.

10. (Amended) Adhesive tape according to [one of the preceding claims] claim 1, wherein the face of the support opposite to the adhesive is calendered.

11. (Amended) Adhesive tape according to [one of the preceding claims] claim 1, wherein the face of the support opposite to the adhesive is covered with an anti-adhesive varnish.

12. (Amended) Method of forming an adhesive tape according to [one of the preceding claims] claim 1, wherein the adhesive is applied to the support in the liquid state and is then brought to the solid state by suitable treatment, e.g., by refrigerating, drying or irradiation.

14. (Amended) Use of adhesive tape according to [one of the preceding claims] claim 1 for taping up bundles of cables, in particular in car manufacture.

Tear-off adhesive tape on non-woven support

The invention relates to adhesive tapes in general, and in particular to those used for taping up bundles of cables, more particularly in car manufacture.

For a long time, adhesive tapes have been known which are referred to as "anti-noise", having a support of needle-bonded felt of a thickness of generally more than 1 mm and of a surface mass of generally more than 120 g/m². The anti-noise property is important in the car sector because it reduces noise caused by the rubbing of the bundles of cables against the car body and other parts of the vehicle. In order to avoid excessive penetration of the adhesive into this type of support, the adhesive is conventionally applied by transfer, i.e. it is first applied as a coating to a backing formed by an anti-adhesive strip of the same width as the support, after which the support is pasted on to the adhesive by lamination. The backing also prevents fluffing of the support as the tape is unrolled. However, it must be disposed of as the product is used. Moreover, these adhesive tapes are not capable of being torn off by hand and therefore require the use of a cutting tool.

EP-A-0 668 336, EP-A-0 716 136, EP-A-0 716 137 and WO-A-9617027 describe adhesive tapes comprising a support of non-woven stitched textile fibres, in particular of the type known as "Malivlies" or "Maliwatt", intended in particular for the taping of electric cables in the car industry. The anti-noise properties of these adhesive tapes are less good than those of tapes with a felt support as mentioned above, as Table 1 shows, which gives the sound level (weighting A) determined for different adhesive tapes according to a method derived from the BMW method (base noise 30 dBA, sound level without adhesive tape 80 dBA).

JP-A-2 163 183 describes an anti-noise adhesive tape which can be torn off by hand for taping up bundles of cables in the car industry, comprising a textile support and a pressure-sensitive adhesive. The exact structure of the support is not described.

Also known are adhesive tapes having a brushed knitted support. These products are expensive to realise and the penetration of the adhesive into the support is considerable. Moreover, they cannot be torn off by hand.

The object of the invention is to realise an adhesive tape which is economical, easy to use, and has good noise-reducing properties.

A further object is to supply such an adhesive tape which can be torn off by hand.

The subject of the invention is in particular an adhesive tape having a fibrous non-woven support in the form of a felt or a needle-bonded fabric and a coating of adhesive covering one face of the support.

According to the invention, this adhesive tape is rolled up with direct contact between the adhesive and the support of an adjacent winding, the support having a thickness of between 0.3 and 1 mm and a surface mass of fibres of between 70 and 120 g/m², and the fibres being immersed in the adhesive over part of the thickness of the support of between 10 µm and 0.5 mm.

Optional, complementary or alternative features of the adhesive tape according to the invention are given below:

- The thickness of the support is between 0.4 and 0.7 mm.

- The surface mass of fibres of the support is between 80 and 110 g/m².
- It has a transverse tearing effort of less than 15 N according to the AFERA 4007 method.
- The support fibres are formed at least substantially of polyester and/or viscose fibres.
- The ratio by mass of viscose to polyester in the fibres is between 20:80 and 50:50 and preferably between 40:60 and 50:50.
- The support contains a proportion of at least 20% by mass of more easily meltable fibres than polyester and/or viscose fibres, capable of interlinking by thermal treatment in order to reinforce the cohesion of the support.
- The proportion of the more easily meltable fibres is between 5 and 15% by mass.
- The adhesive is sensitive to pressure.
- The face of the support opposite the adhesive is calendered.
- The face of the support opposite the adhesive is coated with an anti-adhesive varnish.

The invention also relates to a method for forming an adhesive tape such as that defined above, wherein the adhesive is applied to the support in the liquid state and is then brought to the solid state by appropriate treatment, e.g. by refrigeration, drying or irradiation.

Advantageously, the adhesive is applied with a viscosity of between 30,000 and 150,000 cP and preferably between 50,000 and 100,000 cP.

The invention further provides the use of the adhesive tape defined above for taping up bundles of cables, in particular in car manufacture.

The needle-bonded lightweight felt or felt forming the support of the adhesive tape according to the invention can be obtained by any known technique in the textile industry and in particular by means of carders. Although one can use any textile fibres commonly used in the manufacture of felts and needle-bonded textiles, fibres of polyester and/or viscose are preferred, in particular for use in the car industry. A judicious proportion of these two types of fibre makes it possible to combine good resistance to temperature, favoured by polyester, with good tearability, favoured by viscose. Reasonable traction facilitates tearing by hand.

Advantageously, the support has a tear-resistance by traction of more than 1.5 daN/cm, a modulus at 20% of elongation of more than 0.5 N/cm and an elongation at break of between 50% and 100%. Such a modulus limits shrinkage during coating and during unwinding of the tape.

The incorporation of more easily meltable fibres and their mutual linkage by thermal treatment, particularly during calendering of the support, reduce fluffing during unrolling of the tape and the effort required thereby. A proportion of these fibres not exceeding 20% by mass, and in particular lying between 5 and 15%, preserves the flexibility of the support. Their melting point is preferably between 50 and 170°C. They can be of the vinyl type or a copolymer base derived from polyester, commonly known as "copolyester".

An anti-adhesive varnish, applied in the fluid state, as is known per se, to the face of the support opposite to the adhesive, also permits easy unrolling without fluffing. This effect is confirmed by Table 2, which gives the unrolling effort in Newtons per centimetre width for two adhesive tapes comprising and not comprising such a varnish and being otherwise similar.

The aforementioned calendering is preferably carried out so as to smooth the face of the support opposite the adhesive, with or without easily meltable fibres, e.g. by bringing the cylinder which bears on this face to a suitable temperature. It makes for greater cohesion of the fibres, which limits fluffing.

The partial penetration of adhesive into the support is obtained by direct coating, the adhesive being applied directly to the support, in the liquid state, e.g. in the form of a solution, or of an aqueous solution, or in the molten state, or in the form of a precursor which is then cross-linked by irradiation or thermal treatment. The adhesive can be applied by any known technique, in particular a technique using cylinders and preferably cylinder-to-cylinder transfer. The partial penetration of the adhesive stiffens the support and reduces the transverse tearing effort of the tape relative to that of the non-coated support. This appears in Table 3, which indicates the transverse tearing effort, on the one hand for an adhesive tape according to the invention whose support is composed of 55% polyester fibres and 45% viscose by mass, having a surface mass of 90 g/m^2 , and on the other hand for the same support without adhesive. This is a traction force determined according to the method AFERA 4007, which must be exerted on the tape in the direction perpendicular to the plane thereof, on either side of a notch formed transversely from one edge, in order to tear it from this notch to the opposite side.

The transverse tearing strength of this same support is also given in Table 4, by comparison with a similar support of pure polyester, which confirms the beneficial effect of the viscose on tearability.

The application of adhesive in the liquid state is translated furthermore into various irregularities in the free surface of the layer of adhesive, corresponding to the irregularities in the surface of the support, which reduce the contact surface between the adhesive and the adjacent winding of the support in the rolled tape, thus facilitating unrolling and limiting fluffing which accompanies this action. It is advantageous that the unrolling force does not exceed 3.5 N/cm and preferably 3 N/cm.

The degree of penetration of the adhesive into the support can be controlled by playing on the viscosity of the adhesive and on the presence or otherwise of a powder applied in a known manner to the face of the support receiving the same. Such a powder, e.g. with a polyester or preferably polyethylene base, may be applied in a quantity capable of reaching 70 g/m², and preferably comprised between 10 and 30 g/m².

Such a powder may also be applied, as a supplement to or a replacement of the anti-adhesive varnish, to the face of the support opposite to the layer of adhesive, so as to reduce the unrolling effort.

The viscosity of the adhesive also has an effect on the adhesiveness of the adhesive tape. Table 5 gives the values of adhesiveness on the reverse determined by the AFERA method and by the RENAULT method on two adhesive tapes having the same support and an adhesive of the same final composition, the weight of adhesive and its viscosity at application being different. Obviously, the increase in viscosity makes it possible to increase

the adhesiveness, in spite of a decrease in the weight of the adhesive. The unrolling behaviour is not affected.

Table 1 shows that an adhesive tape according to the invention (lightweight felt 90 g) supplies, in spite of a relatively low surface mass of fibres, an anti-noise effect superior to that of known adhesive tapes with supports of the Malivlies and Maliwatt types.

Example 1

A needle-bonded lightweight felt is prepared having a surface mass of 90 g/m², composed of 50% polyester fibres, 45% viscose fibres and 5% copolyester fibres having a melting point of less than 170°, calendered at 190° and comprising 20 g/m² of polyethylene powder on the face opposite to the calendered face. Then one applies, over the polyethylene powder, a solution with a base of natural rubber pre-crosslinked in toluene, having a viscosity of 100,000 cP, for a final quantity of adhesive of 64 g/m², and to the calendered face a conventional anti-adherent varnish. The adhesive tape obtained has an immediate unrolling effort of 1.9 N/cm, an adhesiveness to the AFERA backing of 8.4 N/cm and a transverse tearing resistance according to AFERA of 8.56 N.

Example 2

One starts with a needle-bonded lightweight felt with a surface mass of 102 g/m² of the same composition as that in Example 1. This lightweight felt receives 40 g/m² polyethylene powder and is calendered at 190°C on its opposite face to that covered with powder. An anti-adhesive varnish and a layer of adhesive are then applied in the same manner as in Example 1, the final quantity of adhesive being 65 g/m². The resultant adhesive tape has an

immediate unrolling effort of 1 N/cm, an adhesiveness to the backing according to AFERA of 4.4 N/cm and a transverse tearing effort of 7.86 N.

Table 1

Adhesive tape	Acoustic level
Lightweight felt 150 g/m ² + adhesive 50-80 g/m ²	56.0
Lightweight felt 90 g/m ² + adhesive 50-80 g/m ²	63.5
Malivlies 90 g/m ² + adhesive 50-80 g/m ²	65.5
Maliwatt 130 g/m ² + adhesive 120 g/m ²	67.3
Maliwatt 130 g/m ² + adhesive 200-250 g/m ²	65.7
Maliwatt 90 g/m ² + adhesive 50-80 g/m ²	71.8

Table 2

Anti-adhesive varnish	Unrolling effort (N/cm)
Absent	4.5
Present	1.2

Table 3

Tape	Transverse tearing effort (N)
Support without adhesive	15.2
Support + adhesive	8.6

Table 4

Fibres of support	Transverse tearing effort (N)
100 % polyester	18.0
55 % polyester	15.2
45 % viscose	

Table 5

Weight of adhesive (g/m ²)	55	64
Viscosity (cP)	103,000	52,000
Adhesiveness/backing AFERA (N/cm)	17.4	12.2
Adhesiveness/backing RENAULT (N/cm)	2.9	1.8
Unrolling effort (N/cm)	1.3	1.2

Claims

1. Adhesive tape comprising a non-woven fibrous support in the form of a felt or needle-bonded fabric and a layer of adhesive covering one face of the support, characterised in that it is rolled up with direct contact between the adhesive and the support of an adjacent winding, in that the support has a thickness of between 0.3 and 1 mm and a surface mass of fibres of between 70 and 120 g/m², and in that the fibres are immersed in the adhesive over part of the thickness of the support of between 10 µm and 0.5 mm.
2. Adhesive tape according to claim 1, wherein the thickness of the support is between 0.4 and 0.7 mm.
3. Adhesive tape according to one of the preceding claims, wherein the surface mass of fibres of the support is between 80 and 110 g/m².
4. Adhesive tape according to one of the preceding claims, having a transverse tearing effort of less than 15 N according to the AFERA 4007 method.
5. Adhesive tape according to one of the preceding claims, wherein the fibres of the support are formed at least substantially of polyester and/or viscose fibres.
6. Adhesive tape according to claim 5, wherein the ratio by mass of viscose to polyester in the fibres is between 20:80 and 50:50, and preferably between 40:60 and 50:50.
7. Adhesive tape according to either of claims 5 or 6, wherein the support contains a proportion of at most equal to 20 % by mass of fibres which are

more easily melted than polyester and/or viscose fibres and which are capable of interlinking by thermal treatment in order to strengthen the cohesion of the support.

8. Adhesive tape according to claim 7, wherein the proportion of the more easily meltable fibres is between 5 and 15 % by mass.

9. Adhesive tape according to one of the preceding claims, wherein the adhesive is sensitive to pressure.

10. Adhesive tape according to one of the preceding claims, wherein the face of the support opposite to the adhesive is calendered.

11. Adhesive tape according to one of the preceding claims, wherein the face of the support opposite to the adhesive is covered with an anti-adhesive varnish.

12. Method of forming an adhesive tape according to one of the preceding claims, wherein the adhesive is applied to the support in the liquid state and is then brought to the solid state by suitable treatment, e.g. by refrigerating, drying or irradiation.

13. Method according to claim 12, wherein the adhesive is applied with a viscosity of between 30,000 and 150,000 cP, and preferably between 50,000 and 100,000 cP.

14. Use of an adhesive tape according to one of claims 1 to 11 for taping up bundles of cables, in particular in car manufacture.

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— Avec rapport de recherche internationale.

En ce qui concerne les codes à deux lettres et autres abrévia-
tions, se référer aux "Notes explicatives relatives aux codes et
abréviations" figurant au début de chaque numéro ordinaire de
la Gazette du PCT.

(54) Title: TEARAWAY ADHESIVE TAPE ON NONWOVEN SUPPORT

(54) Titre: RUBAN ADHESIF SUR SUPPORT NON TISSE DECHIRABLE A LA MAIN

(57) Abstract: The invention concerns a nonwoven support, in the form of a felt or needle punched product, having a thickness ranging between 0.3 and 1 mm and a surface mass of fibres ranging between 70 and 120 g/m², and the fibres are embedded in the adhesive over part of the support thickness. The tear strength of the adhesive tape is less than 15 N. The invention is useful for strapping bundles of cables in motor vehicle construction.

(57) Abrégé: Le support non tissé, sous forme d'un feutre ou d'un aiguilleté, a une épaisseur comprise entre 0,3 et 1 mm et une masse surfacique de fibres comprise entre 70 et 120 g/m², et les fibres sont noyées dans l'adhésif sur une partie de l'épaisseur du support. L'effort de déchirement transversal du ruban adhésif est inférieur à 15 N. application à l'enrubannage de faisceaux de câbles dans la construction automobile.



WO 01/16245 A1

Declaration and Power of Attorney For Utility or Design Patent Application

Déclaration pour Demandes de Brevet d'Utilité et de Modèle avec Pouvoirs

French Language Declaration

En tant qu'inventeur nommé ci-après, Je déclare par le présent acte que:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

RUBAN ADHESIF SUR SUPPORT NON TISSE DECHIRABLE A LA MAIN

et dont la description est fournie ci-jointe à moins que la case suivante n'ait été cochée:

☒ a été déposée 1 septembre 2000
sous le numéro de demande des Etats-Unis _____
et modifiée le _____ (le cas échéant)
ou,

le numéro de demande internationale PCT PCT/FR00/02424

et modifiée le _____ (le cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, §119(a)-(d) ou §365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, §365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous. J'ai aussi indiqué ci-dessous, en cochant la case "Non", toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign applications
Demandes antérieures étrangères

<u>99/11016</u>	<u>France</u>	<u>02/September/1999</u>
(Number)	(Country)	(Day/Month/Year Filed)
(Numéro)	(Pays)	(Jour/Mois/Année de dépôt)
(Number)	(Country)	(Day/Month/Year Filed)
(Numéro)	(Pays)	(Jour/Mois/Année de dépôt)

☐ D'autres demandes étrangères sont énumérées sur la feuille de priorité supplémentaire ci-jointe.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

TEAR-OFF ADHESIVE TAPE ON NONWOVEN SUPPORT

the specification of which is attached hereto unless the following box is checked:

☒ was filed on September 1, 2000 as
United States Application Number 10/069,126
and was amended on _____ (if applicable)
or,

PCT International Application Number PCT/FR00/02424
and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority under Title 35, United States Code §119 (a-d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT international application which designated at least one country other than the United States, listed below. I have also identified below, by checking the "No" box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed:

Priority claimed
Priorité revendiquée

<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yes	No
Oui	Non
<input type="checkbox"/>	<input type="checkbox"/>
Yes	No
Oui	Non

☐ Additional foreign application numbers are listed on a supplemental priority sheet attached hereto.

French Language Utility or Design Patent Application Declaration

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35 §119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.)
(No. de la demande)

(Application No.)
(No. de la demande)

(Application No.)
(No. de la demande)

☐ D'autres demandes provisoires sont énumérées sur la feuille de priorité supplémentaire ci-jointe.

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, §120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, §365 (c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, §112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, §1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

(Application No.)
(No. de la demande)

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

(Application No.)
(No. de la demande)

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

☐ D'autres demandes américaines ou internationales sont énumérées sur la feuille de priorité supplémentaire ci-jointe.

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

Le(s) soussigné(s) autorise(nt) par la présente le(s) avocat(s) américain(s) ou le(s) mandataire(s) ci-après désigné(s) à accepter et à suivre les instructions, soit de son(leurs) conseil(s) en brevet étranger(s), soit du représentant officiel de la société, concernant toute démarche nécessaire à effectuer auprès de l'Office américain des Brevets et des Marques concernant cette demande, sans communication directe entre le(s) avocat(s) américain(s) ou le(s) mandataire(s) nommé(s) par la présente sera(ont) informé(s) par le(s) soussigné(s). Dans l'hypothèse d'un changement dans les donneurs d'instructions, le(s) avocat(s) américain(s) ou le(s) mandataire(s) nommé(s) par la présente sera(ont) informé(s) par le(s) soussigné(s).

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

☐ Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

(Status)
(Etat)
(patented, pending, abandoned)
(brevetée, pendante, abandonnée)

(Status)
(Etat)
(patented, pending, abandoned)
(brevetée, pendante, abandonnée)

☐ Additional U.S. or international application numbers are listed on a supplemental priority sheet attached hereto.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from either his foreign patent agent or corporate representative, if any, as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney or agent and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney or agent named herein will be so notified by the undersigned.

French Language Utility or Design Patent Application Declaration

POUVOIR: En tant qu'inventeur, je désigne l'(les) avocat(s) et/ou l'(les) agent(s) associés au Numéro Client indiqué ci-dessous pour poursuivre la procédure de cette demande et traiter toute affaire la concernant auprès de l'Office des Brevets et des Marques, et autorise à ce que toute correspondance soit associée à ce Numéro Client.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the attorney(s) and/or agent(s) associated with the Customer Number provided below to prosecute this application and transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number:

NUMERO CLIENT 7055

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